

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): An image processing apparatus comprising:

at least one of an image reading unit which reads a first image data, an image memory control unit which writes/reads a second image data by controlling a memory, an image processing unit which processes the first and second image data to obtain a third image data, and an image writing unit which prints an image corresponding to the third image data on a paper; and

an image data control unit which receives at least one of the first image data, the second image data, and the third image data, and transmits received image data to any one of said image memory control unit, said image processing unit, and said image writing unit,

wherein said image memory control unit is commonly used by a plurality of applications including at least one of a facsimile application, a scanner application, a printer application, and a copier application, and

the image processing unit includes a plurality of interfaces each corresponding to one of the image reading unit and the image writing unit, and is configured to perform image data processing independently for each of the image reading unit and the image writing unit.

Claim 2 (Previously Presented): The image processing apparatus according to claim 1,

wherein said image processing is realized with a processor and a program of this processor is changeable.

Claim 3 (Previously Presented): The image processing apparatus according to claim 1,

wherein said image processing is realized with an SIMD (Single Instruction Multiple Data stream) processor.

Claim 4 (Previously Presented): The image processing apparatus according to claim 1, further comprising:

a first processor which controls any of said image reading unit, said image processing unit, and said image writing unit through a first bus; and

a second processor which controls said image memory control unit through a second bus,

wherein said image data control unit controls an interface between said first bus and said second bus.

Claim 5 (Previously Presented): The image processing apparatus according to claim 4, further comprising:

a facsimile control unit connected to any of said image memory control unit and said image data control unit through said second bus, said facsimile control unit transmits or receives a facsimile image from or to any of said image memory control unit and said image data control unit.

Claim 6 (Original): The image processing apparatus according to claim 5, wherein said image reading unit, said image data control unit, said image memory control unit, said image processing unit, said image writing unit, and said facsimile control unit are configured as independent units.

Claim 7 (Currently Amended): An image processing apparatus comprising:

at least one of an image reading unit which reads a first image data, an image processing unit which processes the first image data to obtain a second image data, and an image writing unit which prints an image corresponding to the second image data on a paper; and

an image data control unit which receives at least one of the first image data and the second image data, and stores the received image data into a memory, and transmits the image data stored in the memory to any one of said image processing unit and said image writing unit,

wherein said image memory control unit is commonly used by a plurality of applications including at least one of a facsimile application, a scanner application, a printer application, and a copier application, and

the image processing unit includes a plurality of interfaces each corresponding to one of the image reading unit and the image writing unit, and is configured to perform image data processing independently for each of the image reading unit and the image writing unit.

Claim 8 (Previously Presented): The image processing apparatus according to claim 7,

wherein an image memory control unit is connected through said image data control unit to any of said image reading unit, said image processing unit, and said image writing unit, and

wherein said image data control unit transmits the image data stored in the memory to or receives the image data stored in the memory from said image memory control unit, and said image data control unit transmits the image data stored in the memory to any one of said image processing unit and said image writing unit.

Claim 9 (Previously Presented): The image processing apparatus according to claim 7,

wherein said image processing is realized with a processor and a program of this processor is changeable.

Claim 10 (Previously Presented): The image processing apparatus according to claim 7,

wherein said image processing is realized with an SIMD (Single Instruction Multiple Data stream) processor.

Claim 11 (Previously Presented): The image processing apparatus according to claim 8, further comprising:

a first processor which controls any of said image reading unit, said image processing unit, and said image writing unit through a first bus; and

a second processor which controls said image memory control unit through a second bus,

wherein said image data control unit controls an interface between said first bus and said second bus.

Claim 12 (Previously Presented): The image processing apparatus according to claim 11, further comprising:

a facsimile control unit connected to any of said image memory control unit and said image data control unit through said second bus, said facsimile control unit transmits or receives a facsimile image from or to any of said image memory control unit and said image data control unit.

Claim 13 (Original): The image processing apparatus according to claim 12, wherein said image reading unit, said image data control unit, said image memory control unit, said image processing unit, said image writing unit, and said facsimile control unit are configured as independent units.

Claim 14 (Currently Amended): An image processing apparatus comprising:
at least one of an image reading unit which reads a first image data, an image memory control unit which writes/reads a second image data by controlling a memory, and an image writing unit which prints an image corresponding to the second image data on a paper; and
an image processing unit which receives at least one of the first image data and the second image data, processes the received image data, and transmits the processed image data stored in the memory to any one of said image memory control unit and said image writing unit,

wherein said image memory control unit is commonly used by a plurality of applications including at least one of a facsimile application, a scanner application, a printer application, and a copier application, and

the image processing unit includes a plurality of interfaces each corresponding to one of the image reading unit and the image writing unit, and is configured to perform image data processing independently for each of the image reading unit and the image writing unit.

Claim 15 (Previously Presented): The image processing apparatus according to claim 14,

wherein said image processing unit is connected through said image data control unit to any of said image reading unit, said image memory control unit, and said image writing unit, and

wherein said image data control unit transmits at least one of the first image data and second image data to or receives the processed image data from said image processing unit, and said image data control unit transmits at least one of the first image data, second image data, and processed image data stored in the memory to any one of said image memory control unit and said image writing unit, and said image data control unit receives at least one of the first image data, second image data, and processed image data stored in the memory from at least one of said image reading unit and said image memory control unit.

Claim 16 (Previously Presented): The image processing apparatus according to claim 14,

wherein said image processing unit includes,
a correcting unit which corrects a deterioration of information of the first image data;
and
an image quality processing unit which processes image quality of the received image data corrected by said correcting unit or the second image data in accordance with an image formation characteristic.

Claim 17 (Previously Presented): The image processing apparatus according to claim 14,

wherein said image processing is realized with a processor and a program of this processor is changeable.

Claim 18 (Previously Presented): The image processing apparatus according to claim 14,

wherein said image processing is realized with an SIMD (Single Instruction Multiple Data stream) processor.

Claim 19 (Previously Presented): The image processing apparatus according to claim 15, further comprising:

a first processor which controls any of said image reading unit, said image processing unit, and said image writing unit through a first bus; and

a second processor which controls said image memory control unit through a second bus,

wherein said image data control unit controls an interface between said first bus and said second bus.

Claim 20 (Previously Presented): The image processing apparatus according to claim 19, further comprising:

a facsimile control unit connected to any of said image memory control unit and said image data control unit through said second bus, said facsimile control unit transmits or receives a facsimile image from or to any of said image memory control unit and said image data control unit.

Claim 21 (Original): The image processing apparatus according to claim 20, wherein said image reading unit, said image data control unit, said image memory control unit, said image processing unit, said image writing unit, and said facsimile control unit are configured as independent units.

Claim 22 (Currently Amended): An image processing method comprising the steps of:

receiving an image data from any one of a plurality of processing units for processing the image data differently, including an image data read process, an accumulation, an image processing, a write operation and a transmission/receiving process;

storing the image data in an image memory control unit commonly used by a plurality of applications including at least one of a facsimile application, a scanner application, a printer application, and a copier application;

acquiring image data control information including information on contents of the image processing for the image data received at the image data receiving step;

determining a destination processing unit for transmitting the image data received by the image data receiving step, based on the image data control information acquired at the image data control information acquisition step; and

transmitting the image data received by the receiving step to the destination processing unit determined by the determining step, and

the image processing process includes a plurality of interfaces each corresponding to one of the scanner application and the printer application, and is configured to perform the image data processing independently for each of the scanner application and the printer application.

Claim 23 (Previously Presented): The image processing method according to claim 22, further comprising the step of:

inputting the image data control information,

wherein the acquiring step acquires the image data control information input at the inputting step.

Claim 24 (Currently Amended): A computer readable medium for storing instructions, which when executed by a computer, causes the computer to perform the steps of:

receiving an image data from any one of a plurality of processing units for processing the image data differently, including an image data read process, an accumulation, an image processing, a write operation and a transmission/receiving process;

storing the image data in an image memory control unit commonly used by a plurality of applications including at least one of a facsimile application, a scanner application, a printer application, and a copier application;

acquiring image data control information including information on contents of the image processing for the image data received at the image data receiving step;

determining a destination processing unit for transmitting the image data received by the image data receiving step, based on the image data control information acquired at the image data control information acquisition step; and

transmitting the image data received by the image data receiving step to the destination processing unit determined by the determining step, and

the image processing process includes a plurality of interfaces each corresponding to one of the scanner application and the printer application, and is configured to perform the image data processing independently for each of the scanner application and the printer application.